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Notes on plants of the southern United States—II

FRANCIS W. PENNELL

In the first series of these notes, published in the February Bulletin of this year, there was given a tentative revision of the genus *Commelina*. The treatment of species there presented differed widely from current treatments and should probably have been preceded by a fuller introductory statement. A summary of the conclusions reached may therefore be in place.

Commelina communis L. is the common introduced weed of the northeastern states. Both *Commelina longicaulis* Jacq. and the little-known *C. caroliniana* Walt. have passed as *C. nudiflora* L., but, as is shown on page 96, the latter specific name must be retained for a plant of another genus, *Aneilema nudiflorum* (L.) Kunth. Strangely enough the Linnean *Commelina nudiflora* had been perpetuated in the names of two species belonging to different genera. Linnaeus's description of his *Commelina virginica* is clear and diagnostic, and leaves no doubt that the plant he was considering is that we have been calling *C. hirtella* Vahl. But the plant which has been separated in recent floras, by reason of having its capsule three-celled, as *C. virginica*, is but a state or condition of *C. erecta* L. *C. crispa* Wooton and *C. angustifolia* Michx. are continued as species but are very near, possibly not distinct from, *C. erecta*. *Commelina elegans* HBK. is a widespread species of tropical America.

In the present paper further noteworthy records, based upon my southern collections of 1912 and 1913, are given, and revisions are made of a portion of the genus *Schoenocaulon*, and of the *Nemexia* subgenus of the genus *Smilax*.

MISCELLANEOUS SPECIES

CAREX GLAUDESCENS Ell.

This species was listed in the first series of these Notes (p. 95) as *C. verrucosa* Muhl., a later name. See Mackenzie; Small, Fl. SE. U. S. ed. 2, 1324. 1915.

PLEEA TENUIFOLIA Michx.

Moist sandy soil in pine-land, Winter Park near Wilmington, New Hanover County, North Carolina, October 16, 1912, 4917.

YUCCA GLAUCA Nutt.?

As compared with the prevalent growth of this widespread species, plants collected near Dallas, Texas (*Reverchon 4029, 4029A, F. W. Pennell 5407*), apparently differ as follows:

- | | |
|--|---------------------------|
| Leaves thickened, rigid, usually conspicuously fibrillose. Upper bracts ovate, acute, pale, with broad white margins. Capsule 50-60 mm. long, oblong, not or scarcely constricted. Seeds flat, 9-10 mm. long. | 1. <i>Y. glauca</i> Nutt. |
| Leaves thinner, shorter, dull-green, weak-tipped, short-fibrillose above, more fibrillose at base. Upper bracts broadly lanceolate, acuminate, brown, with narrower white margins. Capsule 30 mm. long, oblong-ovoid, evidently constricted about the middle. Seeds more turgid, 6 mm. long. | 2. <i>Y. sp.</i> |

Full identification of the doubtful plant is left for someone more conversant with this group.

GYROTHECA TINCTORIA (Walt.) Salisb.

Moist open pine-land, north of Abita Springs, St. Tammany Parish, Louisiana, > August 14, 1912, 4196.

BLEPHARIGLOTTIS CONSPICUA (Nash) Small.

Moist sandy open pine-land, Pass Christian, Harrison County, Mississippi, > August 27, 1912, 4364.

IBIDIUM BECKII (Lindl.) House.

Moist deciduous woodland, Catalpa, West Feliciana Parish, Louisiana, > August 21, 1912, 4282.

SCHOENOCALON A. GRAY IN SOUTHERN TEXAS

Two species of this genus, hitherto confused, may be distinguished as follows:

- | | |
|---|---------------------------|
| Base of stem scarcely or not fibrous-coated. Leaves 3-5 mm. wide, slightly or not glaucous, shorter than the scape. Scape stout. Inflorescence 15-20 mm. thick. Bracts rounded. Perianth-segments oblong-ovate, nearly membranous, with broad scarious margins, crenulate. Filaments stout, much dilated, 5-7 mm. long. Styles 1-2 mm. long. Flowering in autumn. | 1. <i>S. Drummondii</i> . |
| Base of stem densely fibrous-coated. Leaves 1.5-4 mm. wide, glaucous, mostly equaling the scape. Scape slender. Inflorescence 9-15 mm. thick. Bracts acutish to acute. Perianth-segments linear-oblong, thickened, not scarious-margined, entire. Filaments slender, not dilated, 3-4 mm. long. Styles less than 1 mm. long. Flowering in spring. | 2. <i>S. texanum</i> . |

1. *SCHOENOCAULON DRUMMONDII* A. Gray; Torrey, Bot. Mex. Bound. Surv. 222. 1858-9. "This species was first discovered by Drummond, and is No. 284 of his third Texan collection." Co-type seen in the herbarium of Columbia University at the New York Botanical Garden.

Texas. In the lower coastal plain. Flowers late-September to early-October.

TEXAS. Colorado: sandy soil, three miles east of Alleyton, > September 22, 1913, *F. W. Pennell* 5557 (P, Y). Dewitt: roadside near Yorktown, > October 6, 1857, *A. Schott* (Y).

2. *SCHOENOCAULON TEXANUM* Scheele, *Linnaea* 25: 262. 1852.

"Gesellschaftlich auf trockner Prairies, deren sehr nahe Unterlage Kalkfelsen ist, bei Neubraunfels: *Lindheimer*, April 1846." *Lindheimer* 1221, seen in the herbaria of the New York Botanical Garden, the Academy of Natural Sciences at Philadelphia and the University of Pennsylvania, is probably from the type-locality.

Texas to Chihuahua and San Luis Potosi. Edwards Plateau and southwestward. Flowers April to June.

TEXAS. Hays: San Marcos > Spring, 1898, *S. W. Stanfield* (Y). Kendall: Rocky bluffs, > June, 1885, *J. Reverchon* 1607 (P, Y). Kerr: Kerrville > April to June, 1894, *A. A. Heller* 1626 (A, Y). Travis: hills, Austin, > May 13, 1872, *E. Hall* 644 (Y).

SMILAX, SUBGENUS NEMEXIA (RAF.), IN THE EASTERN UNITED STATES

The subgenus or section of *Smilax* containing the herbaceous-stemmed vines, frequently with beautiful foliage and bearing umbels of lurid green, mostly malodorous flowers—a group of plants commonly known as the carrion-flowers—is one which has long been of especial difficulty to taxonomists. Various writers have held nearly the entire group of species here presented, as well as certain East Asian allies, in one species, *Smilax herbacea*, while others have attempted segregations based upon the shape of the branchlets, the length of the peduncles, the number of primary veins, and other characters which field-study proves too variable for certain use. But it has gradually become apparent

that a number of species may be distinguished upon features at first thought of little moment.

Linnaeus in the first edition of the *Species Plantarum* recognized two species, *Smilax herbacea* and *S. Pseudo China*. The types of these show that they are identical, and that the widespread glaucous- and glabrous-leaved species of the east is properly called *S. herbacea*. *Smilax tamnifolia* and *S. pulverulenta*, two surprisingly distinct species considering how poorly our books have described them, were added by Michaux. *Smilax lasioneuron* was described by Hooker in 1840 from the Saskatchewan region, and the main innovation of this present revision is the extension of this species eastward to embrace a plant widespread through the Mississippi Valley states. Hooker and his followers have laid emphasis upon the short-peduncled cymes of *S. lasioneuron*, but it requires but slight inspection of a series of any species of this group to show how undependable this character is; indeed, that peduncles should be shortened in specimens of western more arid regions seems natural. Two southern species have been added by Dr. Small, and the present writer describes one species, believed new to science, from Georgia.

The carrion-flowers are here continued as a subgenus of *Smilax*, in deference to the opinion of Mr. John B. Norton, of the United States Department of Agriculture, who is engaged in a study of the entire genus *Smilax*. To him I am indebted for valuable criticism.

My interest in this group extends from 1908, and my collections include most of the species, although several critical southern species have not been obtained.

Anthers about equaling the filaments. Leaves lanceolate to triangular-ovate, usually more or less hastate-lobed at base. Leaves slightly paler and glabrous beneath. Peduncles frequently several in an axil.

Perianth-segments 1.5-2.5 mm. long. Peduncles and pedicels relatively short, the latter less than 10 mm. long.

1. *S. tamnifolia*.

Perianth-segments 4 mm. long. Peduncles and pedicels longer, the latter about 20 mm. long.

2. *S. leptanthera*.

Anthers shorter than the filaments. Leaves ovate to cordate, not hastate-lobed at base.

Mature leaves pale beneath, relatively short-acuminate.

Berries dark-blue, glaucous. Perianth-segments broadly lanceolate, 2-5 mm. long.

- Leaves glabrous beneath. Bracts on stem below leaves appressed.
- Stem 3-5 dm. tall, erect, without tendrils. Leaves all clustered near summit of stem, oblong-ovate, acute. Perianth-segments 2-3 mm. long. Seeds 4.5-5 mm. long, maturing two to a berry. 3. *S. biltmoreana*.
- Stem elongated, climbing, with tendrils. Leaves on adult stems all alternate, cordate to ovate, acuminate. Perianth-segments 3-4 mm. long. Seeds 3.5-4 mm. long, maturing three to five to a berry. 4. *S. herbacea*.
- Leaves puberulent to pubescent beneath. Bracts on stem below leaves more or less spreading.
- Stem elongated, climbing, with numerous tendrils. Peduncles all in the axils of normal leaves. Leaves puberulent to pubescent beneath, acuminate. Seeds maturing three to five to a berry. Perianth-segments 3.5-4.5 mm. long. Leaves ovate to cordate. 5. *S. lasioneuron*.
- Perianth-segments 2-2.5 mm. long. Leaves triangular-ovate. 6. *S. tenuis*.
- Stem not or slightly elongated, not climbing, with few to no tendrils. Peduncles, at least in part, in the axils of bracts below the leaves. Leaves pubescent beneath.
- Perianth-segments 4-5 mm. long. Seeds maturing three to five to a berry. Leaves acuminate, paler beneath. Stems frequently somewhat elongated and with tendrils. 7. *S. ecirrhata*.
- Perianth-segments 2.5-3 mm. long. Seeds maturing two to three to a berry. Leaves acute to mucronate, whitened beneath. Stems not elongated, very rarely with tendrils. 8. *S. Hugeri*.
- Mature leaves shining-green beneath, strongly acuminate. Berries black, not or scarcely glaucous. Seeds maturing three to five to a berry. Perianth-segments lanceolate, 4-6 mm. long. 9. *S. pulverulenta*.

I. SMILAX TAMNIFOLIA Michx.

Smilax tamnifolia Michx. Fl. Bor. Am. 2: 238. 1803. "Hab. in Carolina." Description of leaves as "rotundato-obtusis" apparently applies to this. Type not verified.

Coprosmanthus tamnifolius Kunth, Enum. Pl. 5: 267. 1850.

Nemexia tamnifolia Small, Fl. SE. U. S. 281. 1903.

Moist sandy soil near streams, in the Coastal Plain; Long Island to South Carolina.

Flowers after the other species, in northern New Jersey and on Long Island in late-June and early-July.

NEW YORK. Nassau: Rockville Center, *E. P. Bicknell* > June 27 (Y).

NEW JERSEY. Atlantic: Egg Harbor, *J. B. Brinton* > June 21 (P). Burlington: Atsion, *B. Long 6217* > July 19 (A). Camden: Parkdale, *G. W. Bassett 66* > June 14 (A). Cape May: Court House, *F. W. Pennell 3984* > July 15 (A). Cumberland: Beaver Dam, *B. Long 4943* (A). Gloucester: Repaupo, *E. B. Bartram* > June 23 (A). Middlesex: near Milltown, *N. Williamson* > August (Y). Monmouth: Farmingdale, *N. Taylor 2148* > July 4 (Y). Ocean: Barnegat, *B. Long 5296* < September 29 (A). Salem: Yorktown, *B. Long 4137* (A).

PENNSYLVANIA. Delaware: Tinicum, *T. C. Porter* (Y).

DELAWARE. Sussex: Laurel, *A. Commons* > June 18 (A).

MARYLAND. Dorchester: near Sharptown, *J. P. Otis* (A). Kent: Chestertown, *E. G. Vanatta* < August 3 (A). Prince Georges: Hyattsville, *F. H. Knowlton* > June 27 (U).

DISTRICT OF COLUMBIA. Terra Cotta, *C. S. Pollard 606* (U).

VIRGINIA. Nansemond: Suffolk, *A. A. Heller 925* > June 8-13 (P, U, Y), a large-leaved form.

SOUTH CAROLINA. Aiken: Graniteville, *H. Eggert* > May 21 (M). Clarendon: Manning, *W. Stone 245* > May 21 (A).

2. *Smilax leptanthera* Pennell, sp. nov.

Stem striate, glabrous. Leaves alternate; petioles slender, rounded, narrowly channeled above, 6-7 cm. long; blades triangular-ovate, cordate at base, acuminate at apex, dull-green above, slightly glaucous beneath, glabrous above and beneath. Tendrils about 7 cm. long, stouter than in *S. tamnifolia*, two to an axil. Staminate inflorescence: peduncles 12-15 cm. long; umbels thirty-five- to forty-flowered; pedicels filiform, 18-22 mm. long; sepals six, lanceolate, yellowish green, one-nerved, 4 mm. long, spreading to reflexed-spreading; filaments six, 1.2 mm. long, glabrous; anthers linear, recurved-coiled, 1-1.2 mm. long. Pistillate inflorescence not seen.

TYPE: Warm Springs, Meriwether County, Georgia, collected in flower May 22, 1905, *S. M. Tracy 9257*, in the herbarium of the New York Botanical Garden.

Piedmont Region of central Georgia, known only from the original collection.

Species closely allied to *S. tamnifolia*.

3. *Smilax biltmoreana* (Small) J. B. Norton, comb. nov.

Nemexia biltmoreana Small, Fl. SE. U. S. 281, 1328. 1903.

"Type, Biltmore Herbarium, no. 906b, in Herb. N. Y. B. G."

Type seen.

Woodlands; highlands of North Carolina and upper South Carolina.

Flowers in May, fruits in August.

NORTH CAROLINA. Buncombe: Biltmore, *Biltmore Herbarium* 906, 906b > May 4 (B, Y). Cleveland: Kings Mountain, *Biltmore Herbarium* 14954 p. p. (B). Henderson: Flat Rock, *Dr. Shoolbred* (Y). Rutherford: Hickory Nut Gap, *J. K. Small & A. M. Huger* < October 3 (Y).

SOUTH CAROLINA. Greenville: Caesars Head, *L. M. Bragg* 3637 < August 26 (S).*

4. SMILAX HERBACEA L.

Smilax herbacea L. Sp. Pl. 1030. 1753. "Habitat in Virginia, Marilandia." Type, a specimen in the Linnaean herbarium, obtained evidently from Gronovius and labeled by him "*Smilax annua inermis caule fusco purpureo glabro claviculis plurimis teneris vestito. Ex alis foliorum oritur pedunculus teres glaber semipedalis gerens flores in capitulos globos, collectos.*" This is evidently a duplicate of Clayton's No. 541 from Virginia, identified both in the Linnaean and Gronovian herbaria as the plant here considered.

Smilax Pseudo China L. l. c. 1031. 1753. "Habitat in Virginia, Jamaica." Species clearly aggregate, represented in the Linnean herbarium by specimens written up by Linnaeus as follows, according to a letter of B. D. Jackson: "three sheets pinned together; the first is '11 K Pseudo China,' it is a barren branch, the leaves leathery: the second sheet is written up '11' and seems quite the same plant as the former, but has one berry, the third sheet is of a West Indian species, coll. by Patrick Browne in Jamaica, probably *S. celastroides*." From the wording of the Linnaean description none of these can be considered the type of *S. Pseudo China*, but this would be

* Specimens from the Charleston Museum, Charleston, South Carolina, are indicated by "S."

rather a specimen of Gronovius, also studied by Linnaeus, now in the Gronovian herbarium in the British Museum. The description of Linnaeus is word for word from Gronovius, except for the addition of the phrase "racemis ovato-oblongis," inappropriate for any *Smilax* whatever. "*Smilax caule tereti inermi: foliis inermibus, caulinis cordatis, ramorum lanceolatis; pedunculis longissimis*," Gronovius, Fl. Virg. 156. 1742, citing Clayton's Nos. 541, 561 and 630, is represented in the herbarium by Nos. 561 and 630 (for No. 541 see above note under *S. herbacea*). These two numbers are identified by Dr. A. B. Rendle as both the same as No. 541, that is, as genuine *Smilax herbacea* L. For the verification of these two Linnaean types I am indebted to Dr. B. Dayden Jackson, of the Linnaean Society of London, and to Dr. A. B. Rendle, of the British Museum.

Smilax inermis Walt. Fl. Carol. 244. 1788. Type, presumably from Berkeley County, South Carolina, not verified.

Smilax peduncularis Muhl.; Willdenow, in Linnaeus, Sp. Pl., ed. 4, 4: 786. 1806. "Habitat in Canada, Pensylvania." Type not verified.

Nemexia nigra Raf. Neogenyt. 3. 1825. New name for *S. herbacea* L., but apparently intended for the black-fruited *S. pulverulenta* Michx.

Nemexia cerulea Raf. l. c. 3. 1825. New name for *S. peduncularis* Muhl.

Coprosmanthus peduncularis Kunth, Enum. Pl. 5: 264. 1850.

Coprosmanthus herbaceus Kunth, l. c. 265. 1850.

Smilax herbacea α *Simsii* A. DC. Monogr. Phan. 1: 51. 1878.

"*S. herbacea* Sims, Bot. Mag. pl. 1920." From figure and description evidently a narrow-leaved form of *S. herbacea*.

Smilax herbacea β *peduncularis* A. DC. l. c. 51. 1878.

Nemexia herbacea Small, Fl. SE. U. S. 280. 1903.

Smilax herbacea crispifolia Pennell, Proc. Acad. Nat. Sci. Phila. 62: 559. 1910. "Type.—Serpentine, Mineral Hill, Delaware County, Penna., F. W. Pennell 594, coll. Sept. 6, 1908, in Herb. Acad. Nat. Sci. Phila." A narrow, rigid-leaved form of dry soils, probably identical with *S. herbacea Simsii*.

Most woodlands, spring-heads, and near streams; more rarely,

in dry soils, thickets, or open barrens; under the latter circumstances, usually as forma *crispifolia*: New Brunswick to Alabama, west to Indiana and Nebraska.

Flowers in eastern Pennsylvania, New Jersey and southeastern New York late-May to early-June, fruits September to November.

NEW BRUNSWICK. York: Fredericton, *J. Fowler* (U).

ONTARIO. York: Toronto, *Biltmore Herbarium 902b* > June (B).

MAINE. Penobscot: Oldtown, *L. H. Harvey 1014* (U).

NEW HAMPSHIRE. Grafton: Lisbon, *F. Blanchard* (M).

VERMONT. Caledonia: Barnet, *F. Blanchard* (M).

MASSACHUSETTS. Berkshire: Great Barrington, *C. L. Pollard* (U). Bristol: Nonquitt, *E. L. Sturtevant* (M). Essex: Ipswich, *T. Morong* > June 23 (M, Y). Plymouth: Marion, *A. M. Vail* > July (Y).

RHODE ISLAND. Newport: Crescent Beach, Block Island, *Fernald, Long & Torrey 9249* (A).

CONNECTICUT. Fairfield: Greens Farms, *C. L. Pollard 36* > June 7 (U). New Haven: Mt. Carmel, *W. E. Safford 137* > June 5 (U).

NEW YORK. Bronx: east of Van Cortlandt Park, *F. W. Pennell 7039* > June 14 (Y). Delaware: Arkville, *E. N. Harvey* > August (P). Essex: Westport, *N. L. Britton* (Y). Greene: New Baltimore, *N. Taylor 1375* < August 19 (Y). Oneida: Sylvan Beach, *W. R. Maxon 554* (U). Onondaga: Syracuse, *L. M. Underwood* > June (Y). Orange: Guymarch, *F. W. Pennell 6919* (Y). Queens: College Point, *J. Schrenk* > June 3 (Y). Richmond: near Garretson, *A. M. Vail* < October 24 (Y). Rockland: Spring Valley, *P. Wilson* (Y). Sullivan: Mongaup, *F. W. Pennell 6820* (Y). Tioga: Apalachin, *F. E. Fenno 402* > July 27 (Y). Tompkins: Fall Creek, *W. Trelease* > June 13 (M). Ulster: Cragmoor, *E. M. Farr* (P). Washington: S. H. Burnham > July 18 (B). Westchester: Tarrytown Heights, *F. W. Pennell 7001* > June 13 (Y).

NEW JERSEY. Bergen: Alpine, *F. W. Pennell 5729* < September 12 (Y). Burlington: Bordentown, *B. Long 3086* (A). Cape May: Court House, *F. W. Pennell 2601* < August 30 (Y). Essex: Montclair, *J. F. Poggenburg* < September 5 (Y). Gloucester: Woodbury, *C. S. Williamson* > May 25 (A). Middlesex: Milltown, *A. M. Vail* (Y). Monmouth: Farmingdale, *B. Long &*

S. Brown 3545 > May 28-30 (A). Ocean: New Egypt, *J. H. Grove* 285* > May 31 (A). Sussex: Andover, *N. L. Britton* < September 28 (Y).

PENNSYLVANIA. Bucks: Penn Valley; *J. Crawford* (U). Chester: Sugartown, *F. W. Pennell* 821* < September 23 (A). Delaware: Wawa, *F. W. Pennell* 3648*, 3649* > June 9 (A). Fayette: Ohio Pyle, *Brown, Crawford & Van Pelt* 29 (A). Lancaster: Pleasant Grove, *J. J. Carter* < August 22 (Y). Lehigh: Slatington, *C. C. Bachman* 2413 > June 8 (A). Montgomery: Ashbourne, *B. Long* 5835, 5836 > May 28 (A). Northampton: Bangor, *C. S. Williamson* > May 30 (A). Philadelphia: Germantown, *T. Meehan** < September 24 (A). Westmoreland: *P. E. Pierron* > June 10 (U). York: McCalls Ferry, *N. L. Britton* (Y).

DELAWARE. Newcastle: Townsend, *J. B. Brinton* > May 30 (A).

MARYLAND. Allegany: Cumberland, *H. Shriver* (Y). Garrett: Oakland, *F. W. Pennell* 6729 (Y). Kent: Chestertown, *E. G. Vanatta* (A).

VIRGINIA. Fairfax: Great Falls, *F. W. Pennell* (Y). Page: Stony Man Mountain, *E. S. & Mrs. Steele* 176 < September 1 (B, M, U, Y). Pulaski: Peak Mountain, *J. K. Small* (B, M, U). Rockingham: Mt. Crawford, *A. A. Heller* > May 5-13 (A). Tazewell: Tazewell Peak, *A. H. Howell* 437 (U).

NORTH CAROLINA. Guilford: High Point, *Biltmore Herbarium* 902c (B). Haywood: Eagle's Nest, *P. C. Standley* 5489 < September 4 (U). Iredell: Statesville, *Biltmore Herbarium* 902d > May 19 (B). Watauga: Blowing Rock, *A. M. Huger* (Y).

SOUTH CAROLINA. Anderson: Pendleton, *L. M. Bragg* 3897 (S). Greenville: Paris Mount, *J. K. Small* (Y). Oconee: Clemson College, *H. D. House* 2119 (U).

GEORGIA. DeKalb: *H. Eggert* > May 23 (M).

ALABAMA. Lee: Auburn, *F. S. Earle* (Y).

OHIO. Licking: *W. W. Stockberger* 902 > June 1 (B).

INDIANA. Steuben: Clear Lake, *C. C. Deam* (U). Wells: Twin Bridges, *C. C. Deam* > June 12 (B).

ILLINOIS. Clinton: Carlyle, *N. M. Glatfelter* (M). Stark: Wady Petra, *V. H. Chase* > May 28 (U).

* Forma *crispifolia*.

NEBRASKA. Lancaster: Lincoln, *H. J. Webber* (Y).

MISSOURI. Greene: Springfield, *P. C. Standley* 9745 < September 2 (U).

5. *SMILAX LASIONEURON* Hook.

Smilax lasioneuron Hook. Fl. Bor. Amer. 2: 173. *pl.* 187, A. 1840.

"Hab. Carlton House Fort on the Saskatchewan, *Dr. Richardson*." Type not verified, but evidently plant here considered.

Coprosmanthus lasioneuron Kunth, Enum. Pl. 5: 265. 1850.

Smilax herbacea γ *lasioneuron* A. DC. Monogr. Phan. 1: 52. 1878.

(?) *Smilax diversifolia* Small, Bull. Torrey Club 25: 607. 1898.

"The original specimens were collected by the writer along the Flint River near Albany, Georgia, May 24-28, 1895." Type, in immature fruit, seen in the herbarium of Columbia University at the New York Botanical Garden. Needs to be studied in flower and mature fruit.

(?) *Nemexia diversifolia* Small, Fl. SE. U. S. 281. 1903.

Nemexia herbacea melica A. Nels. Proc. Biol. Soc. Wash. 17: 175.

1904. "I take as type Mr. Andrews' specimens from Boulder Cañon [Colorado],—fruit in 1903, flowers (staminate and pistillate) in 1904." Type not seen, but evidently plant here considered.

Nemexia lasioneuron Rydb. Bull. Torrey Club 32: 610. 1905.

Moist soil, thickets, and along streams; southwestern Ontario and Ohio to Georgia, Alabama, Colorado and Wyoming. Intergrades with *S. herbacea* and with *S. ecirrhata*. Through the Mississippi Valley this species grows much larger and frequently bears peduncles much longer than does the typical form of drier western regions.

ONTARIO. Huron: Wingham, *J. A. Morton* 5971 > June 25 (A, Y).

GEORGIA. Dougherty: Albany, *J. K. Small* (Y), type of *S. diversifolia* Small.

ALABAMA. Bullock: Union Springs, *Biltmore Herbarium* 14675a (B).

KENTUCKY. Warren: near Green River, *S. F. Price* (M).

OHIO. Hamilton: Cincinnati, *C. G. Lloyd* > May 23 (M).

INDIANA. Allen: Fort Wayne, *F. W. Pennell* 5301 (P). Wells: Bluffton, *C. C. Deam* 14 (M, U).

ILLINOIS. Cook: Chicago, *W. C. Ohlendorf* > May 15 (B). Dupage: Naperville, *L. M. Umbach* (U). Kane: Elgin, *E. E. Sherff* < September 14 (M). Lasalle: Starved Rock, *Greenman, Lansing & Dixon 118* (Y). St. Clair: *H. Eggert* > June 14 (M). Stark: Wady Petra, *V. H. Chase* > May 28 (A).

WISCONSIN. Milwaukee: Milwaukee, *H. E. Hasse* (Y).

MINNESOTA. Winona: Stockton, *J. M. Holzinger* < September (U).

NORTH DAKOTA. Benson: Lake Ibsen, *J. Lunell* (Y). McHenry: Towner, *J. Lunell* < September 10 (Y).

SOUTH DAKOTA. Fall River: Hot Springs, *P. A. Rydberg 1052* > June 19 (U, Y). Lawrence: Deadwood, *W. P. Carr 154* (Y). Mellette: White River, *E. J. Wallace* (Y). Washabaugh: *S. S. Visher 2280* < August 22.

IOWA. Decatur: *J. P. Anderson* (M). Johnson: Iowa City, *A. S. Hitchcock* (U).

NEBRASKA. Cedar: St. James, *F. Clements 2609* (U). Lancaster: Lincoln, *G. G. Hedgcock* > May 22 (M). Lincoln: Hershey, *C. D. Mell 41* > May 15 (U). Thomas: Halsey, *L. Krautter* > May 29 (P).

MISSOURI. Barry: Monett, *F. W. Pennell 5359* (P). Cass: *G. C. Broadhead* > June 17 (M). Greene: Springfield, *P. C. Standley 8397* < August 29 (U). Jackson: Independence, *B. F. Bush 529* > June 7 (M). Jasper: Webb City, *E. J. Palmer 473* > June 20 (M). Jefferson: Sulphur Springs, *W. Trelease* < October 23 (M). St. Louis: Valley Park, *F. W. Pennell 5315* (P). Shannon: *B. F. Bush 68* > June 8 (U).

ARKANSAS. Benton: Sulphur Springs, *F. W. Pennell 5364, 5366* < September 3 (P).

OKLAHOMA. Creek: Sapulpa, *F. W. Pennell 5379* < September 7 (P). Kay: *M. White* (Y).

WYOMING. Crook: Sundance Mountain, *A. Nelson 2139* > July 3 (B, M, Y). Fremont: Wind River, *T. A. Williams* (Y). Sheridan: Dayton, *F. Tweedy 2277* < September (Y).

COLORADO. Boulder: Boulder, *F. Daniels 224* (M). El Paso: Colorado Springs, *M. E. Jones 997* > June 18 (U, Y). Larimer: Horsetooth Mountain, *F. W. Pennell 5850* (Y).

6. SMILAX TENUIS Small

Smilax tenuis Small, Bull. Torrey Club 25: 607. 16 D 1898.

"The original specimens were collected by Dr. Hale, many years ago in Louisiana." Type seen in the herbarium of Columbia University at the New York Botanical Garden.

Nemexia tenuis Small, Fl. SE. U. S. 281, 1329. 1903. Woods, Louisiana and eastern Texas.

LOUISIANA. Dr. Hale > April (Y).

TEXAS. San Augustine: San Augustine, G. L. Corbett (U).

7. SMILAX ECIRRHATA (Engelm.) S. Wats.

Smilax herbacea ϵ *ecirrhatta* Engelm.; A. DeCandolle, Monogr. Phan. 1: 52. 1878. "Prope Saint-Louis Americae bor. (Engelm.) . . . in h. ber. fol. 89 . . . et in h. Boiss." Type not seen nor verified.

Smilax ecirrhatta S. Wats.; A. Gray, Man. ed. 6, 520. 1890.

Coprosmanthus ecirrhattus Chapm. Fl. S. U. S. ed. 3, 504. 1897.

Nemexia ecirrhatta Small, Fl. SE. U. S. 280. 1903.

Woodlands; southwestern Ontario to Tennessee, Minnesota and Missouri.

ONTARIO. Huron: Wingham, J. A. Morton 2283 > June 14 (M, U).

TENNESSEE. Franklin: Cowan, H. Eggert > May 7 (M). Knox: Knoxville, Biltmore Herbarium 906d > May 1 (B).

KENTUCKY. Bell: Pineville, Biltmore Herbarium 906c > May 7 (B). Estill: Irvine, Biltmore Herbarium 14826 (B).

OHIO. Erie: Groton, E. L. Moseley < October 23 (U). Lorain: Amherst, A. E. Ricksecker > May 12 (U).

INDIANA. Huntingdon: C. C. Deam 1953 (Deam). Tippecanoe: Lafayette, F. W. Pennell 5310 (P). Wells: Bluffton, C. C. Deam > May 12 (M, U).

ILLINOIS. Cook: West Pullman, L. M. Umbach > May 21 (U). Hancock: — > May 21 (M). McLean: Bloomington, G. Vasey (U). St. Clair: French Village, H. Eggert > May 8 (M, Y).

MICHIGAN. Gratiot: Alma, C. A. Davis > May 15 (U).

WISCONSIN. Grant: Boscobel, C. H. Sylvester > June (Y).

MINNESOTA. Chippewa: Montevideo, *L. R. Moyer* > May 30 (B). Winona: Winona, *J. M. Holzinger* > June (U).

IOWA. Fayette: *B. Fink 614* > June (U). Harrison: *R. Burgess* (Y). Johnson: *T. J. & M. F. L. Fitzpatrick* > May 13 (U).

MISSOURI. Clark: *Dumas, B. F. Bush* (M). Jackson: Courtney, *B. F. Bush* (M). Jefferson: Victoria, *H. Eggert* < August 24 (M, Y).

8. ***Smilax Huger*** (Small) J. B. Norton, comb. nov.

Nemexia Huger Small, Fl. SE. U. S. 280, 1328. 1903. "Type, Stone Mt., Ga., *Small*, May 1-18, 1895 (fl.); Hickory Nut Gap, N. C., *Small & Huger*, Oct. 3, 1901, in Herb. N. Y. B. G." Type, "Stone Mt., De Kalb Co., Georgia, J. K. Small, May 1-18, 1895," seen in the herbarium of the New York Botanical Garden. Fruiting specimen cited is *S. biltmoreana*. Woodlands, Piedmont and upper coastal plain of South Carolina to Alabama.

SOUTH CAROLINA. Aiken: Graniteville, *H. Eggert* (M). Berkeley: Santee Canal, *H. W. Ravenel* > April (S). Eutaw: Nelson's Ferry Road, *L. M. Bragg* (S).

GEORGIA. Clarke: Athens, *Biltmore Herbarium 14826* < July 22 (B). Dekalb: Stone Mountain, *J. K. Small* > May 1-18 (Y), type. Marion: Buena Vista, *R. M. Harper 1409* (M, U, Y).

FLORIDA. Gadsden: *A. W. Chapman* (Y).

ALABAMA. Lee: Auburn, *F. S. Earle & C. F. Baker* < September 8 (Y). Tallapoosa: Dadeville, *C. L. Pollard & W. R. Maxon 138* (U, Y). Tuscaloosa: Tuscaloosa, *E. A. Smith* > April (M).

9. ***SMILAX PULVERULENTA*** Michx.

Smilax pulverulenta Michx. Fl. Bor. Amer. 2: 238. 1803. "Hab. in Canada et Pensylvania." Type not verified, but a specimen of this plant of Michaux's collecting, "No. 29," seen in the herbarium of the Academy of Natural Sciences of Philadelphia, is probably a co-type.

Smilax herbacea var. *pulverulenta* A. Gray.

Nemexia pulverulenta Small, Fl. SE. U. S. 281. 1903.

Rich woods; southeastern New York to North Carolina and

Tennessee; also in southern Missouri. Frequent in the Piedmont region of southeastern Pennsylvania.

Flowers in New Jersey and southeastern Pennsylvania early to late-May, two weeks to ten days before *S. herbacea*; fruits September to November.

NEW YORK. Bronx: east of Van Cortlandt Park, *F. W. Pennell* 7070 (Y).

NEW JERSEY. Bergen: Fort Lee, *F. W. Pennell* 7061 (Y). Cape May: Cold Spring, *O. H. Brown* (A). Gloucester: Swedesboro, *C. D. Lippincott* > May 22 (A). Mercer: near Trenton, *A. R. Slack* (P).

PENNSYLVANIA. Bucks: Nockamixon, *A. MacElwee* > May 28 (A). Chester: New Garden Station, *F. W. Pennell* 4995 (A). Delaware: Cheyney, *F. W. Pennell* 1986 < September 17 (Y). Franklin: Mercersburg, *Detwileer* > June 12 (A). Lancaster: Haines Station, *J. J. Carter* > May 16 (Y). Montgomery: Ashbourne, *B. Long* 5824, 5828 > May 21 (A). Northampton: Easton, *T. Seal* > June 2 (A). Philadelphia: Cobbs Creek, *T. S. Githens* > May 14 (A). York: *J. Crawford* (A).

DELAWARE. Newcastle: Stanton, *W. M. Canby* > June 13 (B).

MARYLAND. Cecil: Conowingo, *S. S. Van Pelt & B. Long* > May 21 (A). Montgomery: High Island, *C. L. Pollard* 254 > May 19 (U).

DISTRICT OF COLUMBIA. Rock Creek Park, *H. D. House* 716 > May 13 (U).

VIRGINIA. Alexandria: Rosslyn, *C. L. Pollard* > May 6 (U). Smyth: Marion, *N. L. Britton & others* > May 22 (Y).

WEST VIRGINIA. Fayette: Thurmond, *Biltmore Herbarium* 902e (B).

NORTH CAROLINA. Buncombe: Biltmore, — > May 8 (B). Forsyth: Salem, *L. D. von Schweinitz* (A). Halifax: Weldon, *E. B. Bartram* > April 19 (A).

TENNESSEE. Knox: Knoxville, *A. Ruth* 154 > May (Y).

MISSOURI. Greene: Gates, *P. C. Standley* 9377 < August 26 (U). Howell: Willow Springs, *F. W. Pennell* 5339 (P). Jasper: Webb City, *E. J. Palmer* 487 (M). Shannon: Monteer, *B. F. Bush* 2787 > May 11 (M).

NEW YORK BOTANICAL GARDEN.